

COMMENTS

Claim 114 is added. Claims 1-26, 37-39, 42, 43, 45-51, 54-77, 79-81 and 114 are pending in this application.

Specification Objection

The specification was objected to as failing to provide proper antecedent basis (support) for the claimed subject matter in that in claim 71, specifically, the limitation of the head being harder than the cleaning surface is not in the specification. Applicant traverses, the originally-filed claim 71 provides support for itself. However, Applicant has amended the specification to provide more explicit support for the subject matter of claim 71. No new matter has been added in making this amendment. Applicant respectfully requests that the objection be removed.

§102 Rejection of the Claims

Claims 1-7, 37, 49, 56, 59, 77, and 79 were rejected under 35 USC § 102(e) as being anticipated by Tanaka et al. (U.S. Patent No. 6,379,469). Applicant respectfully traverses the rejection of claims 1-7, 37, 49, 56, 59, 77, and 79 for the reasons argued below.

Anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration. *In re Dillon* 919 F.2d 688, 16 USPQ 2d 1987, 1908 (Fed. Cir. 1990) (en banc), cert. Denied, 500 U.S. 904 (1991). It is not enough, however, that the prior art reference discloses all the claimed elements in isolation. Rather, “[a]nticipation requires the presence in a single prior reference disclosure of each and every element of the claimed invention, *arranged as in the claim.*” *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984) (citing *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983)) (emphasis added).

Applicant respectfully submits that the Office Action did not make out a *prima facie* case of anticipation because Tanaka et al. does not teach or suggest each and every element of applicant’s claims arranged as in the claims.

Applicant respectfully points out that Tanaka et al. discloses an “Apparatus and Method for Washing a Substrate”, such as a wafer. The title of Tanaka is evidence of the intent of Tanaka et al. to overcome the problem of contamination in the substrate fabrication process by

washing the substrate itself. The present invention neither discloses nor claims such a method or apparatus. Further, the present invention discloses a method to clean a spindle chuck, i.e., wafer handler, not the wafer itself. In Tanaka et al. there are several references to washing or scrubbing. In Column 2, Line 20, "An object of the present invention is to provide an apparatus and method for *washing a substrate*" (emphasis added). In Column 4, Line 41, "[t]he embodiments described below cover the cases where the technical idea of the present invention is employed in a washing system for washing a semiconductor surface." In Column 5, Line 10, "[t]he scrubber mechanism 23 includes a brushing section 29 which is brought into contact with the front face of the revolving wafer W so as to wash the front face of the wafer W."

Applicant respectfully asserts that Tanaka et al. does not disclose an automated cleaning device having a spindle chuck 21 engaging device 29 and a particle removal surface 33a such that Tanaka et al. would anticipate the present invention. The engaging device 29 of Tanaka in respect to the spindle chuck 21 is not engaging the spindle chuck itself, it is engaging the wafer W to be washed. The wafer W is actually engaging the spindle chuck 21. The present invention claims a particle removal surface on the spindle chuck engaging device. Tanaka et al. does not disclose of such a surface on the wafer.

With respect to examiner's assertion that Tanaka et al. discloses an arm 30a having a joint 81 connected to a fixed support, a spin drive 91 rotating the particle removal surface relative to the spindle chuck, it is unclear from Figure 6 that the reference to a joint is actually a joint. Tanaka et al. states that "[t]he pressure control mechanism ... comprises a vertically movable cylinder 81 having a rod 81a joined to a suitable point of an arm 30a via a vertically movable connecting member 82." Applicant respectfully asserts that the joint that is referenced by the examiner is not pointed out specifically in Figure 6 of Tanaka et al. Applicant further points out that in Tanaka et al. the arm moves the scrubbing member into contact with the substrate to be washed. In the present invention the arm moves the particle removal surface into contact with the spindle chuck not the substrate to be washed.

With respect to claim 77, applicant is unable to find in Tanaka et al. any disclosure of positioning the cleaning head less than the minimum acceptable size of a particle from the chuck. In column 5, line 10 Tanaka et al. states that the "scrubber mechanism 23 includes a brushing section 29 which is brought into contact with the front face of wafer W."

With respect to the recitation of In re Hutchinson, 69 USPQ 138, 33 CCPA 879 (1946), Applicant respectfully points out that the rejection has not shown that Tanaka et al. includes every element with the ability to perform as recited in the claim. Furthermore, applicant respectfully points out that functional language is specifically authorized by In re Swinehart; 439 F.2d 210, 169 USPQ 226 (CCPA 1971); MPEP § 2173.04. MPEP § 2173.04 states that a “functional limitation must be evaluated and considered, just like any other limitation of the claim, for what it fairly conveys to a person of ordinary skill in the pertinent art in the context to which it is used.

For the reasons stated above, Applicant respectfully requests withdrawal of the § 102 rejection and reconsideration of the allowance of claims 1-7, 37, 49, 56, 59, 77, and 79.

Allowable Subject Matter

Claims 38, 39, 42, 43, 45-48, 50, 51, 54, 55, 57, 58, 60, 80, and 81 were objected to as being dependent upon a rejected base claim, but were indicated to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicant respectfully asserts that there is no need to amend claims 38, 29, 42, 43, 45-48, 50, 51, 54, 55, 55, 57, 58, 60, 80, and 81, as they are dependent on claims that the applicant believes are patentable for the reasons provided above. Therefore, applicant respectfully requests that the objection be removed.

Applicant acknowledges the allowance of claims 8-26, 61-69, and 71-76.

Documents Cited but Not Relied upon for this Office Action

Applicant need not respond to the assertion of pertinence states for the references cited but not relied upon by the Office Action since these references are not made part of the rejections in this Office Action. Applicant is expressly not admitting to this assertion and reserves the right to address the assertion should it form part of future rejections.

Generic claims

Applicant again informs the examiner that claims 1-22, 24-26, 37-38, 42, 45-50, 54, 56-65, 68, 70-72, 76-77, 79-81 are believed to be generic. As claims 8-22, 24-26, 61-69, 71-72, and

76 were allowed applicant requests reinstatement of withdrawn claims 27-36, 40, 41, 44, 52, 53, and 78. Moreover, newly added claim 114 is a linking claim between at least allowed claim 22 and withdrawn claims 27, 32, 41, 44, 52, 53, and 78. Reinstatement and examination of withdrawn claims 27-36, 40, 41, 44, 52, 53, and 78 is requested.

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 349-9587 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743

Respectfully submitted,

PAUL SHIRLEY ET AL.

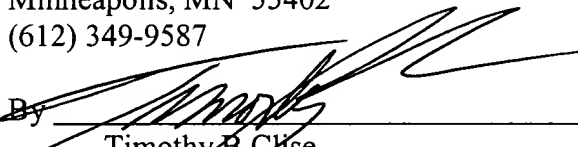
By their Representatives,

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Date

30 Oct '03

By


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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 30 day of October, 2003.

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